

## Abstract

A system and method for acquiring images of variably sized objects. An object detector provides an indication of the presence or absence of objects as they pass by. An image sensing device acquires image data for the objects. An image acquisition device starts an activity counter, and initiates storage of image data for an object in response to detecting presence of the object. The image data is stored into an on-board memory. The activity counter counts a number of acquired scan lines for the object. In response to detecting absence of the object, the image acquisition device terminates the activity counter, and discontinues storage of the image data for the object. The final activity counter value, which reflects the number of scan lines acquired for the object, is recorded in an on-board FIFO. The image data is transferred to a system memory image buffer in a system memory. Host software routines may read the on-board FIFO. The image acquisition device is configured to rearm for acquisition of another object by resetting the activity counter, and initializing a write pointer to the on-board memory so that it points to the top of a next on-board memory buffer. After rearming, the image acquisition device may acquire image data for a second object in response to detecting presence of the second object.

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